

Isolated, Thermocouple Signal Conditioner

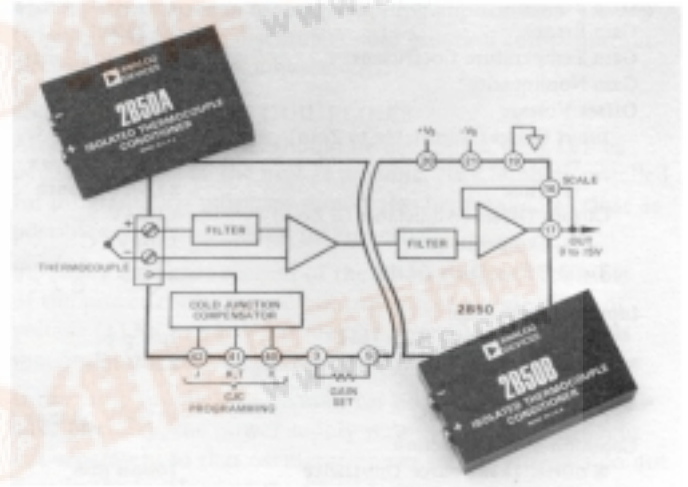
Model 2B50

FEATURES

Accepts J, K, T, E, R, S or B Thermocouple Types
Internally Provided Cold Junction Compensation
High CMV Isolation: $\pm 1500V$ pk
High CMR: 160dB min @ 60Hz
Low Drift: $\pm 1\mu V/^{\circ}C$ max (2B50B)
High Linearity: $\pm 0.01\%$ max (2B50B)
Input Protection and Filtering
Screw Terminal Input Connections

APPLICATIONS

Precision Thermocouple Signal Conditioning for:
Process Control and Monitoring
Industrial Automation
Energy Management
Data Acquisition Systems



GENERAL DESCRIPTION

The model 2B50 is a high performance thermocouple signal conditioner providing input protection, isolation and common mode rejection, amplification, filtering and integral cold junction compensation in a single, compact package.

The 2B50 has been designed to condition low level analog signals, such as those produced by thermocouples, in the presence of high common mode voltages. Featuring direct thermocouple connection via screw terminals and internally provided reference junction temperature sensor, the 2B50 may be jumper programmed to provide cold junction compensation for thermocouple types J, K, T, and B, or resistor programmed for types E, R, and S.

The high performance of the 2B50 is accomplished by the use of reliable transformer isolation techniques. This assures complete input to output galvanic isolation ($+1500V$ pk) and excellent common mode rejection (160dB @ 60Hz).

Other key features include: input protection (220V rms), filtering (NMR of 70dB @ 60Hz), low drift amplification ($\pm 1\mu V/^{\circ}C$ max - 2B50B), and high linearity ($\pm 0.01\%$ max - 2B50B).

APPLICATIONS

The 2B50 has been designed to provide thermocouple signal conditioning in data acquisition systems, computer interface systems, and temperature measurement and control instrumentation.

In thermocouple temperature measurement applications, outstanding features such as low drift, high noise rejection, and 1500V isolation make the 2B50 an ideal choice for systems used in harsh industrial environments.

DESIGN FEATURES AND USER BENEFITS

High Reliability: To assure high reliability and provide isolation protection to electronic instrumentation, the 2B50 has been conservatively designed to meet the IEEE Standard for transient voltage protection (472-1974: SWC) and provide 220V rms differential input protection.

High Noise Rejection: The 2B50 features internal filtering circuitry for elimination of errors caused by RFI/EMI, series mode noise, and 50Hz/60Hz pickup.

Ease of Use: Internal compensation enables the 2B50 to be used with seven different thermocouple types. Unique circuitry offers a choice of internal or remote reference junction temperature sensing. Thermocouple connections may be made either by screw terminals or, in applications requiring PC Board connections, by terminal pins.

Small Package: 1.5" X 2.5" X 0.6" size conserves board space.